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ABSTRACT OF THE DISCLOSURE

The present invention relates to an object-based processor architecture which allows exact pointer identification by strictly separating pointers and data from one another in the memory and in the processor registers. The access to the memory is performed exclusively via pointers which refer to objects. An object contains separate areas for pointers and data and an attribute field for describing the length of the two areas. Both the pointers in the pointer registers and also the pointers in the pointer areas of the objects directly contain the address of the objects to which they refer. The suggested processor architecture allows the integration of automatic garbage collection, which may be implemented completely or partially in hardware. A real-time capable garbage collection may be implemented especially efficiently through hardware support.